

**San Jose Federated City Employees' Retirement System**  
**Private Markets Program**  
**PUBLIC**  
**June 30, 2017**

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## **Private Equity Program**

The purpose of this document is to offer an interim review of the Retirement System's private equity investments. It is divided into three sections: Market and Industry Analysis, Executive Summary, and Aggregate Private Equity Portfolio. The Market and Industry Analysis is a broad overview of the private equity industry. The final two sections are a review of the San Jose Federated City Employees' Retirement System's private equity partnership investments on both an aggregated and individualized basis.

As of June 30, 2017, the San Jose Federated City Employees' Retirement System had committed \$155.4 million to six partnerships (two fund of funds, three secondary funds, and one buyout fund). The reported fair value of the aggregate Private Equity Program was \$59.9 million at June 30, 2017.

Aggregate Private Equity Program <sup>1</sup>	
Number of Partnerships	6
Committed Capital	\$155.4 million
Capital Called <sup>2</sup>	\$141.2 million
Distributions	\$147.3 million
Reported Value	\$59.9 million
Total Value Multiple	1.5x
Net IRR <sup>3</sup>	7.6%

<sup>1</sup> Throughout this report, numbers may not sum due to rounding.

<sup>2</sup> One of the partnership commitments is made in a foreign currency. This total reflects committed capital in dollars, adjusted for foreign currency exchange rates, as of the report date.

<sup>3</sup> Net IRR is net of fees, expenses, and carried interest for each partnership.

**Global fundraising for all private equity funds totaled \$121 billion during the second quarter of 2017<sup>1</sup>, marking a 21% increase from the approximately \$100 billion raised in the prior quarter and essentially no increase compared to the second quarter of 2016.**

- Fundraising by buyout funds during the second quarter stood at \$88 billion, an increase from \$57 billion in the prior quarter. The second quarter's uptick in fundraising was also reflected in venture capital fundraising with \$16 billion raised, an increase from \$10 billion in the first quarter of 2017. A total of 92 venture funds were closed during the second quarter, representing 45% of all closed private equity funds.
- According to Preqin, the number of buyout deals completed or announced in the second quarter decreased by 1% from the previous quarter, while the aggregate value of deals rose significantly, increasing by \$28 billion, or 51%. The number of global private equity buyout-backed exits decreased by 9% to 381, but the respective aggregate exit values increased by 22%, to \$59 billion.
  - The largest buyout deal announced during the quarter was Sycamore Partners' \$6.9 billion take-private transaction of Staples, Inc.
- The aggregate value of venture capital deals globally rose to \$47 billion, a 26% increase from the previous quarter. North American venture deal activity rose by 26% and accounted for 40% of venture capital deals globally. Meanwhile, venture capital activity in Asia also increased, accounting for \$20 billion (43%) of global deal value during the quarter compared to the previous quarter's value of \$12 billion (39%). Series A / Round 1 was the most common type of venture capital deal, representing 28% of all deals.
  - The most notable venture deal during the quarter was Didi Chuxing's \$5.5 billion funding round led by Silver Lake, Softbank, China Merchants Bank, and Bank of Communications. Didi Chuxing was founded in 2012 and is one of China's major ride-sharing companies, providing transportation services to more than 400 million users.

<sup>1</sup> All data referenced as of Q2 2017 are from Preqin as of September 2017 and subject to revision, unless otherwise noted.

- Transaction valuations remained high in the second quarter of 2017 as buyout transaction data published by S&P Capital IQ showed average YTD pricing at 9.9x trailing EBITDA for all U.S. buyout transactions, compared to 9.7x trailing EBITDA for 2016 and 9.9x trailing EBITDA for 2015. Transaction valuations in Europe showed a slight increase in the second quarter, with transactions between €250 million and €500 million completed at average LTM pricing of 9.0x EBITDA, compared to 8.8x EBITDA for the year of 2016. Even though the availability of debt financing remained high, all transactions on average were well capitalized with 42% equity.
- Asia is still the second most targeted region in terms of funds in the market and target capital commitments, with 380 funds targeting \$192 billion as of Q2 2017. Europe, after being surpassed by Asia in 2016, is the third most targeted region, with 350 funds targeting \$98 billion as of Q2 2017.
- According to EMPEA data, emerging markets comprised 11% of the global fundraising market and 9% of global invested capital year-to-date. Emerging market fundraising has increased 26% relative to the same quarter last year. Across all asset classes, approximately \$10.8 billion was raised in the second quarter of this year for developing economies compared to \$8.0 billion of private capital raised in Q2 2016.

**In aggregate, \$0.1 million of capital was called from the Retirement System during the second quarter of 2017 by the underlying partnerships.**

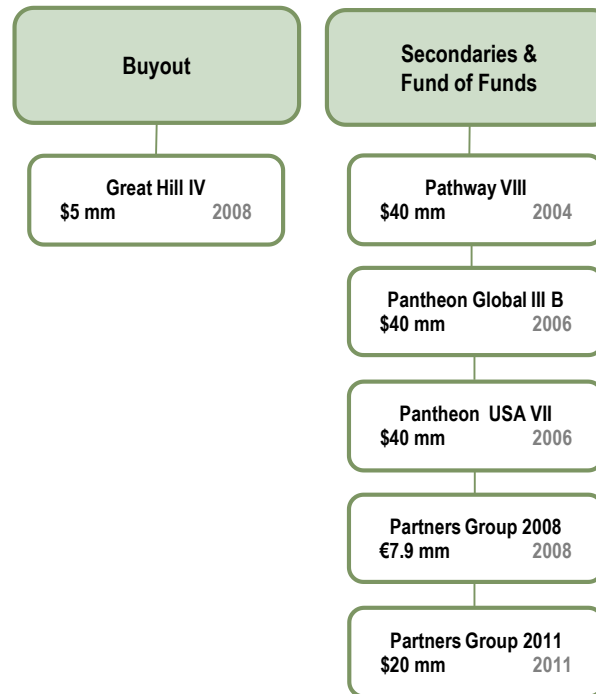
- Pathway Private Equity Fund VIII called \$0.1 million from the Retirement System primarily to fund second quarter management fees.
- Great Hill Equity Partners IV called less than \$0.1 million, bringing cumulative contributions to 98.6% of committed capital.

**Distributions received by the Retirement System from underlying partnerships during the second quarter totaled \$6.1 million.**

- Pantheon USA Fund VII distributed \$2.4 million through distributions made by three underlying partnerships.
- Pathway Private Equity Fund VIII distributed \$1.2 million received from various underlying partnerships.
- Partners Group Secondary 2011 distributed \$1.1 million primarily stemming from the sale of three underlying partnerships.
- Pantheon Global Secondary Fund III 'B' distributed \$0.6 million primarily in distributions received from several underlying fund investments.
- Partners Group Secondary 2008 distributed \$0.5 million in distributions received from underlying partnership investments, including proceeds from one underlying partnership's sale, and additional proceeds from another underlying partnership's sale.
- Great Hill Equity Partners IV distributed \$0.4 million primarily in proceeds from the partial recapitalization of an underlying partnership, which has generated a 4.1x gross MOIC, and 39% gross IRR.

**The Retirement System did not make any new commitments during the second quarter of 2017.**

October 31, 2017



- White box: Current investment.



## Aggregate Program Performance Summary

	Investment Strategy	Capital Committed (\$ mm)	Total Contributions Paid to Date <sup>1</sup> (\$ mm)	Unfunded Commitment <sup>2</sup> (\$ mm)	Total Distributions Received to Date (\$ mm)	Reported Fair Value (\$ mm)	Reported Fair Value Plus Distributions (\$ mm)	Net IRR <sup>3</sup> (%)	Inv. Multiple <sup>4</sup> (x)
<b>Total Program</b>		<b>155.4</b>	<b>141.2</b>	<b>14.3</b>	<b>147.3</b>	<b>59.9</b>	<b>207.2</b>	<b>7.6</b>	<b>1.5</b>
<b>Vintage Year 2004</b>		<b>40.0</b>	<b>39.6</b>	<b>0.4</b>	<b>51.9</b>	<b>6.1</b>	<b>58.0</b>	<b>6.8</b>	<b>1.5</b>
Pathway Private Equity Fund VIII	Fund of Funds	40.0	39.6	0.4	51.9	6.1	58.0	6.8	1.5
<b>Vintage Year 2006</b>		<b>80.0</b>	<b>74.8</b>	<b>5.2</b>	<b>69.3</b>	<b>34.2</b>	<b>103.6</b>	<b>6.2</b>	<b>1.4</b>
Pantheon Global Secondary Fund III 'B'	Secondary	40.0	37.8	2.2	34.0	7.9	41.9	1.9	1.1
Pantheon USA Fund VII	Fund of Funds	40.0	37.0	3.0	35.3	26.4	61.7	10.1	1.7
<b>Vintage Year 2008</b>		<b>15.4</b>	<b>14.1</b>	<b>1.3</b>	<b>17.7</b>	<b>7.0</b>	<b>24.7</b>	<b>14.1</b>	<b>1.7</b>
Great Hill Equity Partners IV	Buyout	5.0	4.9	0.1	6.1	4.8	10.9	24.4	2.2
Partners Group Secondary 2008 <sup>5</sup>	Secondary	10.4	9.2	1.2	11.6	2.3	13.8	9.5	1.5
<b>Vintage Year 2011</b>		<b>20.0</b>	<b>12.7</b>	<b>7.4</b>	<b>8.5</b>	<b>12.5</b>	<b>21.0</b>	<b>21.0</b>	<b>1.7</b>
Partners Group Secondary 2011	Secondary	20.0	12.7	7.4	8.5	12.5	21.0	21.0	1.7

<sup>1</sup> In certain instances, Total Contributions Paid to Date may exceed Capital Committed as certain partnerships may call fees outside of commitment and most partnerships reserve a limited right to recycle capital and/or recall distributions.

<sup>2</sup> Unfunded Commitment amounts are an approximation due to the inclusion of recallable distributions.

<sup>3</sup> The Net IRR calculations were performed by Meketa Investment Group. Total Program IRR is net of fees, expenses, and carried interest for each partnership but gross of Meketa Investment Group fees.

<sup>4</sup> The Inv. Multiple calculations were performed by Meketa Investment Group. Total Program Inv. Multiple is net of fees, expenses, and carried interest for each partnership but gross of Meketa Investment Group fees.

<sup>5</sup> The Retirement System committed €7.9 million to the Partnership in 2008. The \$10.4 million is an estimated amount based on the contributed capital and unfunded commitment as of 6/30/17.



The IRR (internal rate of return) and investment multiple are the most meaningful measures of performance for a private equity fund. IRR measures how assets are performing in relation to time. Investment multiple shows the cash on cash return generated on the invested capital by the underlying assets.

The Total Program net IRR increased by 10 basis points during the second quarter, from 7.5% to 7.6%. Over this period, the total reported fair value of the Private Equity Program increased by \$2.5 million, or 4.2%, after adjusting for capital calls and distributions during the period. Performance was primarily driven by increases in the net valuations of Pantheon USA Fund VII (\$1.0 million or 3.6%), Partners Group Secondary 2011 (\$0.6 million or 5.0%), and Great Hill Equity Partners IV (\$0.5 million or 10.6%).

## **Private & Opportunistic Debt Program**

The purpose of this document is to offer an interim review of the Retirement System's private & opportunistic debt investments. It is divided into three sections: Market and Industry Analysis, Executive Summary, and Aggregate Private & Opportunistic Debt Portfolio. The Market and Industry Analysis is a broad overview of the private debt industry. The final two sections are a review of the San Jose Federated City Employees' Retirement System's private & opportunistic debt partnership investments on both an aggregated and individualized basis.

As of June 30, 2017, the San Jose Federated City Employees' Retirement System had committed \$165.0 million to four opportunistic debt partnerships. The reported fair value of the aggregate Private & Opportunistic Debt Program was \$78.0 million at June 30, 2017.

Aggregate Private Debt Program <sup>1</sup>	
Number of Partnerships	4
Committed Capital	\$165.0 million
Capital Called <sup>2</sup>	\$186.7 million
Distributions	\$144.4 million
Reported Value	\$78.0 million
Total Value Multiple	1.2x
Net IRR	6.4%

<sup>1</sup> Throughout this report, numbers may not sum due to rounding.

<sup>2</sup> In certain instances, total contributions may exceed the commitment, as a Partnership may reserve the right to recycle capital and/or recall distributions depending upon the terms of its Limited Partnership Agreement.

**Spreads in the leveraged credit markets continued to compress during the second quarter with the high yield market returning 2.2% and the bank loan market returning 0.8%. High yield valuations appeared stretched as the market traded at a price of \$101.52 with an option-adjusted spread of 360 basis points, approximately 150 basis points lower than the historic average.**

- Another sign of higher valuations in the market has been a lack of return and spread dispersion between credit quality segments. In the first quarter, BB bonds outperformed CCC-rated bonds, and the spread differential between the two cohorts finished June at just 450 basis points.
- Default activity ticked up in the second quarter as \$9.2 billion of debt (both bank loans and high yield bonds) defaulted, compared to \$8.8 billion in the first quarter. The high yield default rate slightly increased to 1.5%, but was still down from 3.5% where it began the year. The bank loan default rate was 1.4%.
- Currently just \$31.2 billion of bonds trade below 70% of par, and \$31.2 billion of bank loans trade below 80% of par. The energy sector had the most debt priced at distressed levels, followed by retail and health care.
- In private middle market lending, new issue spreads remained consistent, but equity contributions as a percentage of purchase price fell. The middle market premium (the yield differential between the broadly syndicated market and the middle market) increased as the broadly syndicated market yields compressed.
- Second lien issuance continued to take the place of traditional mezzanine or subordinated debt issuance in many new middle market leveraged buyouts.

**In aggregate, \$0.1 million was called from the Retirement System during the second quarter of 2017 by the underlying partnerships.**

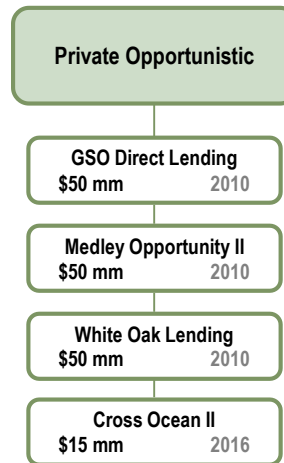
- White Oak Direct Lending called \$0.1 million to fund management fees and partnership expenses.

**The Retirement System received an aggregate of \$3.4 million in distributions during the second quarter of 2017 from its underlying partnerships.**

- Medley Opportunity Fund II distributed \$3.0 million during the quarter from interest, amortization, and maturity payments.
- White Oak Direct Lending distributed \$0.2 million, primarily in principal repayments and interest received.
- Cross Ocean USD ESS Fund II distributed \$0.2 million from interest received on returned contributions.

**The Retirement System did not make any new commitments during the second quarter of 2017.**

As of October 31, 2017



- White box: Current investment.

## Aggregate Program Performance Summary

	Capital Committed (\$ mm)	Total Contributions Paid to Date <sup>1,2,3</sup> (\$ mm)	Unfunded Commitment <sup>4</sup> (\$ mm)	Total Distributions Received to Date <sup>3,5</sup> (\$ mm)	Reported Fair Value (\$ mm)	Reported Fair Value Plus Distributions (\$ mm)	Net IRR <sup>6</sup> (%)	Inv. Multiple <sup>7</sup> (x)
<b>Total Program</b>	<b>165.0</b>	<b>186.7</b>	<b>42.1</b>	<b>144.4</b>	<b>78.0</b>	<b>222.4</b>	<b>6.4</b>	<b>1.2</b>
<b>Vintage Year 2010</b>	<b>150.0</b>	<b>182.2</b>	<b>31.6</b>	<b>144.2</b>	<b>72.9</b>	<b>217.2</b>	<b>6.3</b>	<b>1.2</b>
GSO SJ Partners	50.0	42.3	30.0	40.3	11.9	52.1	7.8	1.2
Medley Opportunity Fund II	50.0	51.7	1.7	30.2	39.0	69.2	7.4	1.3
White Oak Direct Lending <sup>8</sup>	50.0	88.1	0.0	73.8	22.1	95.8	4.0	1.1
<b>Vintage Year 2016</b>	<b>15.0</b>	<b>4.5</b>	<b>10.5</b>	<b>0.2</b>	<b>5.1</b>	<b>5.3</b>	<b>NM</b>	<b>1.2</b>
Cross Ocean USD ESS Fund II	15.0	4.5	10.5	0.2	5.1	5.3	NM	1.2

<sup>1</sup> In certain instances, Total Contributions Paid to Date may exceed Capital Committed as certain partnerships may call fees outside of commitment and most partnerships reserve a limited right to recycle capital and/or recall distributions.

<sup>2</sup> Total contributions include management fees paid outside of capital committed.

<sup>3</sup> Recyclable distributions, fees out of commitment and returns of capital have been reclassified to match manager statements.

<sup>4</sup> Unfunded Commitment amounts are an approximation due to the inclusion of recyclable distributions.

<sup>5</sup> Distributions may include capital that was recycled back into the Partnership.

<sup>6</sup> The Net IRR calculations were performed by Meketa Investment Group. Total Program IRR is net of fees, expenses, and carried interest for each partnership and net of Meketa Investment Group fees. Partnership and Vintage Year IRRs are net of partnership fees but gross of Meketa Investment Group fees.

<sup>7</sup> The Inv. Multiple calculations were performed by Meketa Investment Group. Total Program Inv. Multiple is net of fees, expenses, and carried interest for each partnership and net of Meketa Investment Group fees. Partnership and Vintage Year Inv. Multiples are net of partnership fees but gross of Meketa Investment Group fees.

<sup>8</sup> White Oak Direct Lending's investment period has expired, therefore no callable capital remains as of 6/30/17.





The IRR (internal rate of return) and investment multiple are the most meaningful measures of performance for private and opportunistic debt funds. The IRR measures how assets are performing in relation to time. The investment multiple shows the cash on cash return generated on the invested capital by the underlying assets.

The total program net IRR decreased by 80 basis points during the second quarter, from 7.2% to 6.4%. The fair market value of the total program decreased by \$3.7 million, or 4.4%, after adjusting for capital calls and distributions during the second quarter. The net portfolio valuation was driven by a decrease in the valuation of White Oak Direct Lending (-16.8%), slightly offset by an increase in the valuation of Medley Opportunity Fund II (1.8%).

## **Real Assets Program**

The purpose of this document is to offer an interim review of the Retirement System's private real assets investments. It is divided into three sections: Market and Industry Analysis, Executive Summary, and Aggregate Private Real Assets Portfolio. The Market and Industry Analysis is a broad overview of the economy and the real assets industry through quarter-end. The final two sections are a review of the San Jose Federated City Employees' Retirement System's private real assets partnership investments on both an aggregated and individualized basis.

As of June 30, 2017, the System had committed to 12 real assets funds (two core real estate funds, nine closed-end real estate funds, and one infrastructure fund). The total reported fair value of real assets investments was \$123.0 million at June 30, 2017, including \$79.6 million in core real estate, \$39.0 million in closed-end real estate, and \$4.3 million in infrastructure.

#### Total Closed-End Private Real Assets Program<sup>1,2</sup>

<b>Number of Partnerships</b>	10
<b>Committed Capital</b>	\$167.2 million
<b>Capital Called<sup>3</sup></b>	\$122.8 million
<b>Distributions</b>	\$107.4 million
<b>Reported Value</b>	\$43.3 million
<b>Total Value Multiple</b>	1.2x
<b>Net IRR</b>	5.0%

<sup>1</sup> Throughout this report, numbers may not sum due to rounding.

<sup>2</sup> Excludes investments in PRISA I and American Core Realty Fund, both of which are open-end vehicles.

<sup>3</sup> One of the partnership commitments is made in a foreign currency. This total reflects committed capital in dollars, adjusted for foreign currency exchange rates, as of the report date.

**Commodity price performance was mixed during the quarter.**

- West Texas Intermediate oil prices ended the quarter at \$45 per barrel representing an 8% quarterly decline as well as a 7% decrease from one year prior. Robust U.S. oil production and abundant inventories contributed to the decline. The number of U.S. oil rigs increased by 113 during the quarter.
- Natural gas prices increased slightly to \$2.97 per MMBTU resulting in a 3% quarterly increase and a gain of 15% from one year prior. There were 30 natural gas rigs added during the quarter.
- U.S. gasoline prices for regular blend increased slightly to \$2.54 per gallon representing a 2% quarterly increase and a 2% increase from one year prior.
- The price of gold was volatile during the quarter. After the U.S. attacked a Syrian airbase, gold spiked on safe haven buying. However, gold prices gave up most of its gains leading up to and after the Federal Reserve's decision to increase rates. Gold prices were up 2% during the quarter to \$1,260 per ounce and down 1% relative to one year prior.
- Copper prices decreased slightly to \$2.59 per pound representing a 2% decrease during the quarter and a 23% increase from one year prior.
- With the 2017 season underway, expectations of crop plantings indicate relative increases in soybean and cotton acreage at the expense of corn and wheat. Wheat prices were flat and corn and soybeans were down 12% and 19%, respectively, from one year prior. A record number of planted soybean acreage with high yields helped push prices lower. Farmland, as represented by the NCREIF Farmland index, grew by 1.6% during the quarter.
- In April, lumber prices reached a temporary four-year high but subsequently fell to end the quarter down 1% but up 14% from one year prior. Paneling prices were up slightly by 1% but notched an annual increase of 9%. Timberland investments, as represented by the NCREIF Timberland index, logged a 0.7% quarterly gain.

## Infrastructure fundraising and transactions

- In the second quarter, a total of 171 unlisted infrastructure funds were in the market, according to Preqin, with a combined fundraising target of approximately \$149 billion. One notable new fund in the market is Blackstone Infrastructure I, targeting \$40 billion. Geographically, Europe-focused funds represented the largest number of funds in market (43%), followed by North America (26%), and Asia (6%). However, North America-focused funds led in the amount of capital targeted, representing over 50% of fundraising target in market.
- Eleven unlisted infrastructure funds closed during the quarter, raising a total of \$5.3 billion, which is the lowest amount of capital raised in a single quarter since Q3 2013. This may be attributable to capital largely flowing to a small group of large fund managers, several of which closed in prior quarters. The two largest funds raised this quarter were ICON Infrastructure Partners IV (€1.2 billion), and Castlake Aviation III (\$1.0 billion).
- Preqin reports that 256 deals were completed globally by unlisted infrastructure fund managers in the second quarter, with a reported aggregate value of \$48 billion and an average deal size of \$188 million. These results show a drop in the number of transactions and average deal size compared to last quarter, but the trend for both deal volume and aggregate values remains relatively consistent since 2013.

## Notable transactions during the second quarter

- A consortium including Macquarie Infrastructure, AMP Capital Investors, British Columbia Investment Management, and Qatar Investment Authority acquired a 50.4% stake in the power grid Endeavor Energy from the Australian state of New South Wales for AUD \$7.62 billion (\$5.61 billion).
- KKR agreed to acquire a 100% stake in Dutch car operator Q-Park, which operates 870,000 parking spaces in Europe, for €2.95 billion.
- Danish Fund manager, Copenhagen Infrastructure Partners acquired three offshore wind sites under development in Taiwan with a combined capacity of 1,500MW for \$5.97 billion.

During the second quarter of 2017, airports<sup>1</sup> and seaport<sup>2</sup> utilization increased, while roads<sup>3</sup> utilization and electricity generation decreased compared to metrics for the same period in 2016.

- **Utilities:** Net energy generation decreased 1.0% during the second quarter of 2017 compared to the same period in 2016. Net generation has been flat for several years as increases in energy efficiency balanced against economic demand growth. Although coal-generated power increased over the same period in 2016, the trend is downward as natural gas-generated and renewables-generated power increase.
- **Transportation:** During the second quarter, approximately 834 billion miles were traveled on U.S. roads, representing a 0.1% decrease versus the same period in 2016. Annual container volume at the nation's three largest U.S. ports (Long Beach, Los Angeles, and New York/New Jersey) for the year ending June 30, 2017 increased by approximately 3.5% compared to the previous 12 months. The number of domestic and international flights during the period was up 1.3% over the same period in 2016.

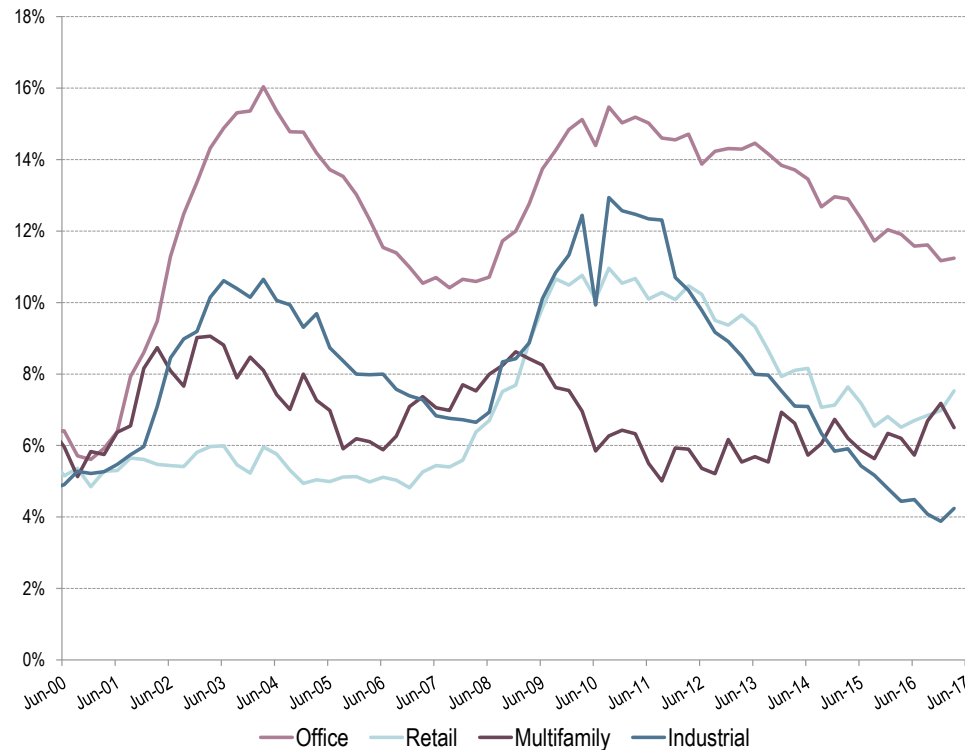
<sup>1</sup> Represent all U.S. domestic and international flights, excluding foreign point-to-point flights.

<sup>2</sup> Represents the top three U.S. ports by container volume, as measured by twenty-foot equivalent units (TEU).

<sup>3</sup> Aggregate travel on U.S. roads.

## Real Estate Fundamentals

### Vacancy by Property Type



In the second quarter of 2017, vacancy rates for office and industrial properties increased, while rates for multifamily and retail properties decreased. Compared to the same period one year ago, vacancy in office properties rose by 73 basis points, retail by 70 basis points, and multifamily by 51 basis points, while industrial has remained relatively flat. Overall, total vacancy across all property types increased 35 basis points from Q2 2016. Industrial properties exhibit the highest occupancy rates at 96%, while office properties continue to have the highest vacancy rate of the major property types at 12%.

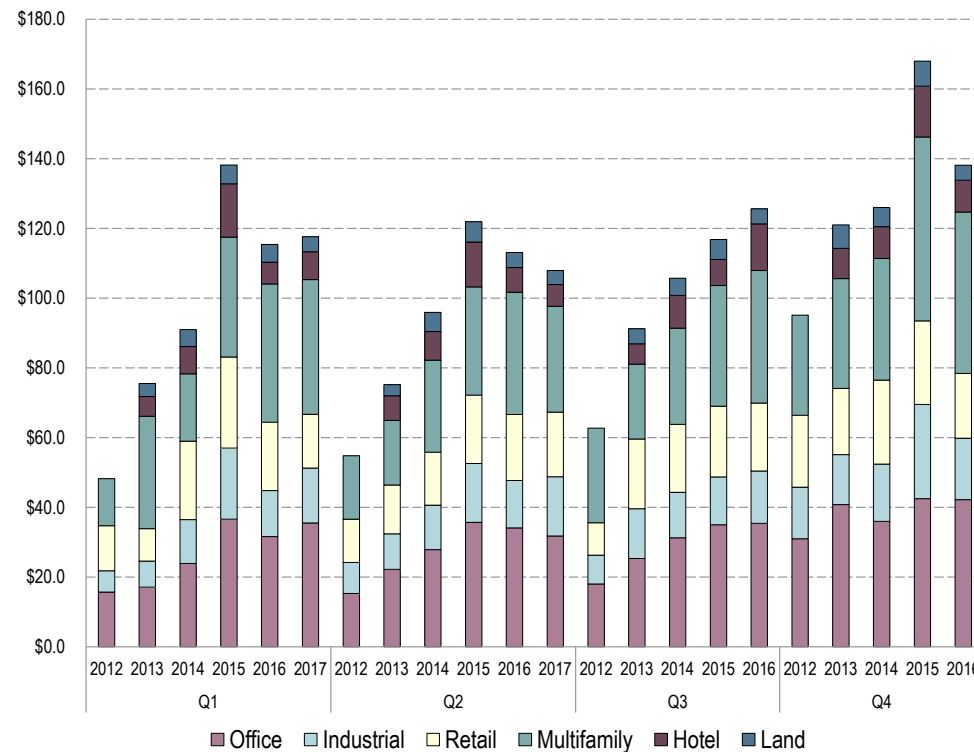
### NOI Growth



The trailing twelve month rate of NOI growth continued at a strong pace, remaining above 5% through the second quarter of 2017. This is largely due to the continued growth of the U.S. economy coupled with only moderate new construction, allowing property owners to increase rents and lease vacant space. The strongest NOI growth NOI continues to be with industrial properties, which grew at 7.5% year-over-year ending Q2 2017.



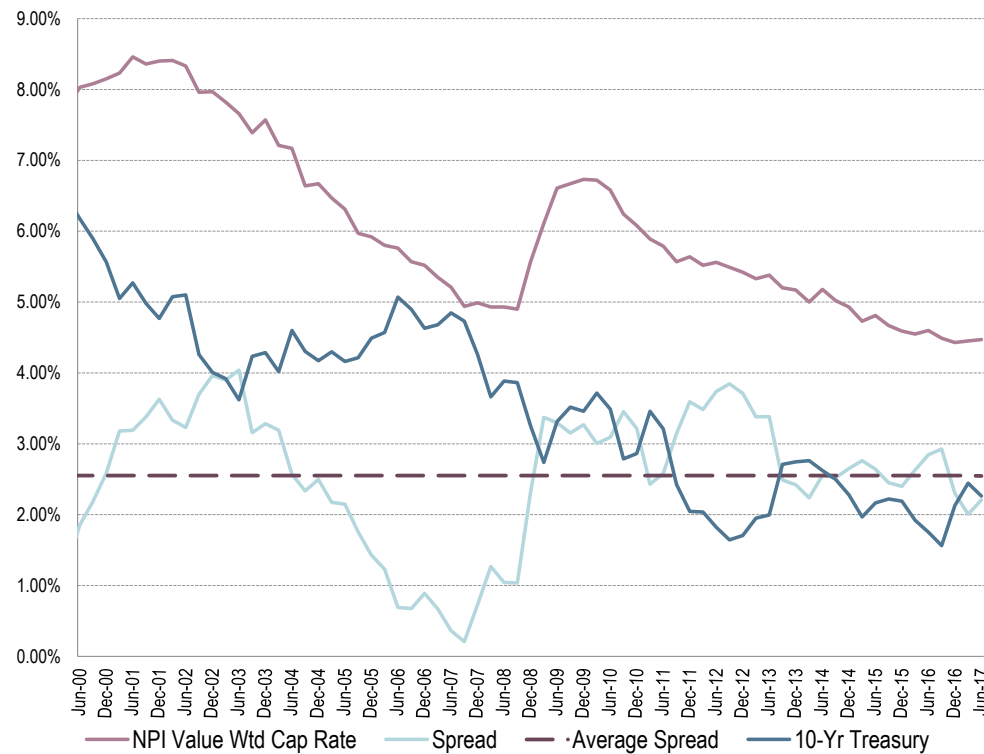
## Transaction Volume (\$bn)



Private real estate transaction volume for properties valued over \$2.5 million decreased 5% in Q2 2017 when compared to Q2 2016. Transaction volume for the first half of 2017 decreased 2% when compared to the same period one year prior. Industrial volumes increased 25% over the quarter, while multifamily, office and retail volumes were down 13%, 7%, and 2%, respectively. Office and multifamily properties made up the largest percentage of total transaction volume, at 30% and 28%, respectively.

## Real Estate Capital Markets

### Cap Rates vs. 10-Year Treasury



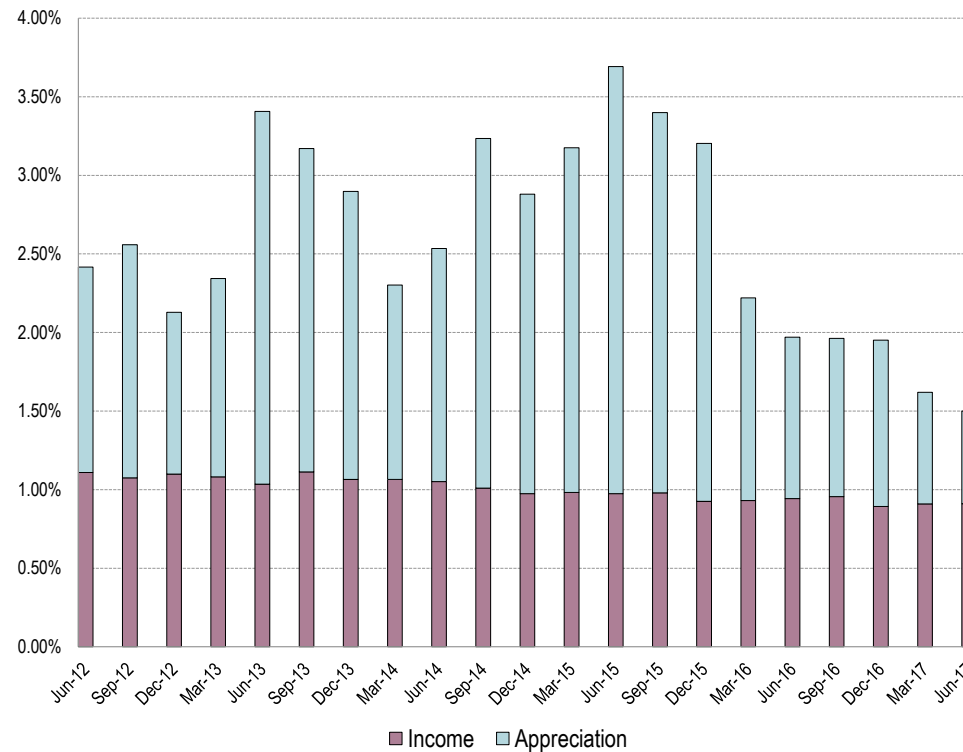
The NPI Value Weighted Cap Rate stabilized around 4.5% following a declining trend post-GFC. 10-year Treasury yields trended down over the quarter after steady increases at the end of 2016 through Q1 2017. The spread between cap rates and the 10-year Treasury widened slightly, ending the quarter at 2.2%, 34 basis points below the long term average.

**Trailing Period Returns**

<i>As of June 30, 2017</i>	<b>1 Year</b>	<b>3 Years</b>	<b>5 Years</b>	<b>10 Years</b>
<b>NFI-ODCE (EW, net)</b>	<b>7.2%</b>	<b>10.7%</b>	<b>10.8%</b>	<b>4.2%</b>
<b>NCREIF Property Index</b>	<b>7.0</b>	<b>10.2</b>	<b>10.5</b>	<b>6.4</b>
<b>NFI-CEVA (EW, net)</b>	<b>8.1</b>	<b>13.2</b>	<b>13.0</b>	<b>4.7</b>
<b>NAREIT Index</b>	<b>0.2</b>	<b>8.9</b>	<b>10.0</b>	<b>6.2</b>

Public and private real estate indices have continued to post positive returns, driven by strong property-level fundamentals and a low interest rate environment. The NFI-CEVA (Closed-End Value Add) Index has outperformed over recent time periods, although the funds included in the index utilize higher leverage and vacancy risk than the comparable indices, which generally include stabilized properties.

### ODCE Return Components (Equal Weight, Net)



The NFI-ODCE Equal Weight return for Q2 2017 was 1.5%, the lowest quarter since 2010. The continuing decline in total return can be almost entirely attributed to a slowdown in appreciation, which has dropped from a peak of 2.7% in Q2 2015 to 0.6% in Q2 2017. Appreciation return is expected to be moderate in the near term due to the stabilization of cap rates.

**In aggregate, \$3.1 million of capital was called from the Retirement System during the second quarter of 2017 by the underlying closed-end partnerships.**

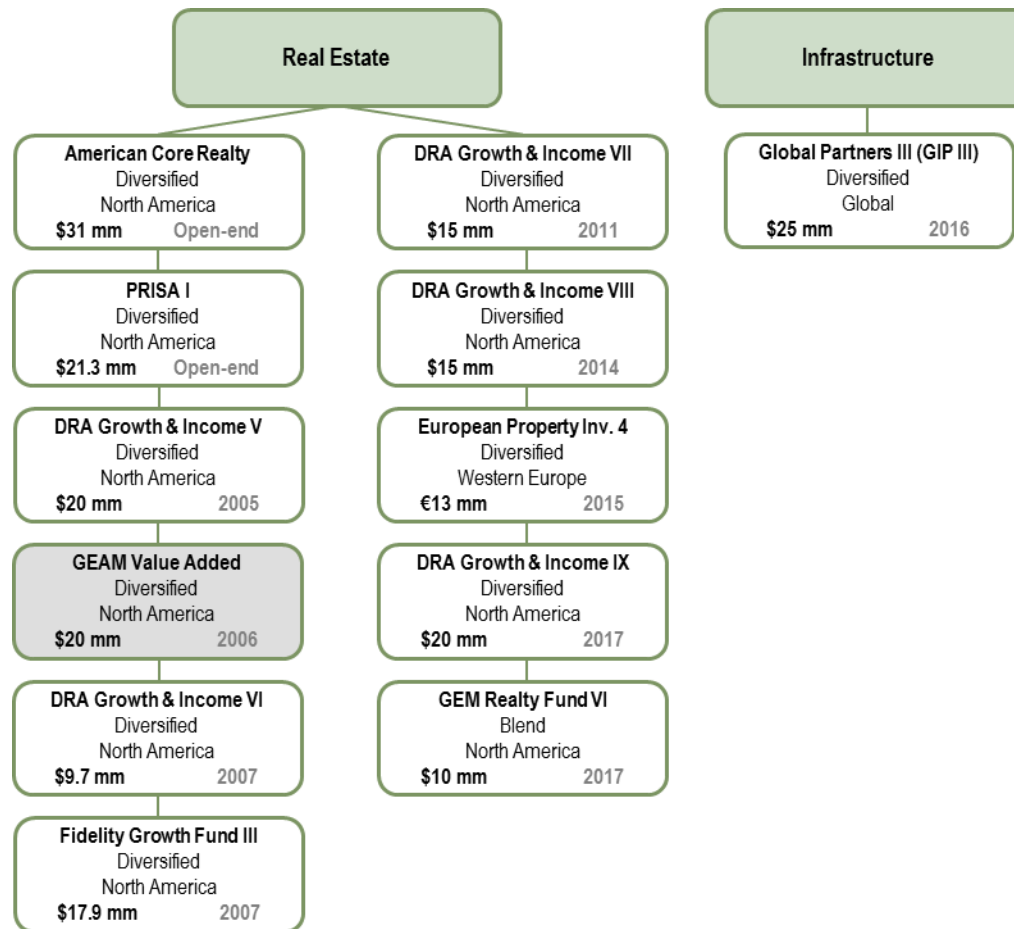
- DRA Growth and Income Fund IX called \$2.5 million, primarily to pay down the funds credit facility used to acquire an underlying partnership.
- DRA Growth and Income Fund VIII called \$0.5 million primarily to repay the funds credit facility used to invest in three underlying partnerships.

**In aggregate, \$3.9 million of capital was distributed to the Retirement System by the underlying closed-end partnerships during the second quarter of 2017.**

- DRA Growth and Income Fund VI distributed \$1.2 million from the sale of an underlying portfolio, which has generated a gross IRR of 28% and gross MOIC of 3.3x. The fund continues to hold a small portion (0.5%) of equity in the property.
- DRA Growth and Income Fund VIII distributed \$0.9 million primarily from loan proceeds received through a new unsecured term loan within an underlying portfolio and proceeds from the sale an underlying partnership, which returned a 21% gross IRR and 1.6x gross MOIC.
- DRA Growth and Income Fund V distributed \$0.6 million primarily from the sale of three properties within an underlying partnership. The fund holds one remaining asset which is expected to sell in the fourth quarter.
- Fidelity Real Estate Growth Fund III distributed \$0.5 million in proceeds from the sale of an underlying partnership, which generated a 14% gross IRR and 1.8x gross MOIC.
- DRA Growth and Income Fund IX distributed \$0.4 million primarily from the sale of seven assets within the recently acquired underlying portfolio.

**The Retirement System did not make any new commitments during the second quarter of 2017.**

As of October 31, 2017



- White box: Current investment.
- Gray box: Liquidated investment.

## Open-end Real Assets Time-Weighted Performance

	1Q17 (%)	Calendar YTD (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)	Since Inception (%)	Inception Date
Open-End Real Assets, Net <sup>1</sup>	1.6	3.2	6.6	10.1	10.5	NA	9.2	7/01/2009
<i>NCREIF ODCE Equal Weighted (net)</i>	1.5	3.2	7.2	10.7	10.8	4.2	9.3	
PRISA I	1.4	2.7	6.7	10.6	10.8	3.8	6.9	7/01/2004
<i>NCREIF ODCE Equal Weighted (net)</i>	1.5	3.2	7.2	10.7	10.8	4.2	6.9	
American Core Realty Fund, LLC	1.7	3.8	6.4	9.6	10.1	NA	4.7	1/01/2007
<i>NCREIF ODCE Equal Weighted (net)</i>	1.5	3.2	7.2	10.7	10.8	4.2	4.8	

<sup>1</sup> Time weighted returns are only presented for core open-end funds and are reported net of fees.

## Aggregate Program Performance Summary

	Investment Strategy	Capital Committed (\$ mm)	Total Contributions Paid to Date <sup>1</sup> (\$ mm)	Unfunded Commitment <sup>2</sup> (\$ mm)	Total Distributions Received to Date (\$ mm)	Reported Fair Value (\$ mm)	Reported Fair Value Plus Distributions (\$ mm)	Net IRR <sup>3</sup> (%)	Inv. Multiple <sup>4</sup> (x)	
Total Closed-end		167.2	122.8	60.3	107.4	43.3	150.8	5.0	1.2	
Vintage Year 2005		20.0	30.5	0.0	39.3	0.9	40.2	5.2	1.3	
	DRA Growth and Income Fund V	Real Estate	20.0	30.5	0.0	39.3	0.9	40.2	5.2	1.3
Vintage Year 2006		20.0	18.2	1.8	8.8	0.0	8.8	-10.9	0.5	
	GEAM Value Add Realty Partners, L.P.	Real Estate	20.0	18.2	1.8	8.8	0.0	8.8	-10.9	0.5
Vintage Year 2007		27.6	28.4	0.0	39.2	2.0	41.1	8.9	1.4	
	DRA Growth and Income Fund VI <sup>5</sup>	Real Estate	9.7	10.6	0.0	16.0	1.5	17.5	10.9	1.7
	Fidelity Real Estate Growth Fund III, L.P. <sup>6</sup>	Real Estate	17.9	17.9	0.0	23.2	0.4	23.6	7.3	1.3
Vintage Year 2011		15.0	15.6	0.4	13.3	14.5	27.7	19.1	1.8	
	DRA Growth and Income Fund VII, LLC	Real Estate	15.0	15.6	0.4	13.3	14.5	27.7	19.1	1.8
Vintage Year 2014		15.0	16.6	1.5	5.5	13.9	19.4	13.2	1.2	
	DRA Growth and Income Fund VIII, LLC	Real Estate	15.0	16.6	1.5	5.5	13.9	19.4	13.2	1.2
Vintage Year 2015		14.7	3.8	10.9	0.4	3.5	3.9	NM	1.0	
	European Property Investors Special Opportunities 4, L.P. <sup>7</sup>	Real Estate	14.7	3.8	10.9	0.4	3.5	3.9	NM	1.0
Vintage Year 2016		25.0	5.2	19.9	0.6	4.3	4.9	NM	0.9	
	Global Infrastructure Partners III, L.P.	Infrastructure	25.0	5.2	19.9	0.6	4.3	4.9	NM	0.9
Vintage Year 2017		30.0	4.5	25.8	0.5	4.3	4.8	NM	1.1	
	DRA Growth and Income Fund IX, LLC	Real Estate	20.0	4.5	15.8	0.5	4.4	4.8	NM	1.1
	GEM Realty Fund VI, L.P. <sup>8</sup>	Real Estate	10.0	0.0	10.0	NA	NM	NA	NA	NA

<sup>1</sup> In certain instances, Total Contributions Paid to Date may exceed Capital Committed as certain partnerships may call fees outside of commitment and most partnerships reserve a limited right to recycle capital and/or recall distributions.

<sup>2</sup> Unfunded Commitment amounts are an approximation due to the inclusion of recallable distributions.

<sup>3</sup> The Net IRR calculation was performed by Meketa Investment Group. Total Program, Partnership, and Vintage Year IRRs are net of fees, expenses, and carried interest for each partnership.

<sup>4</sup> The Inv. Multiple calculation was performed by Meketa Investment Group. Total Program, Partnership, and Vintage Year Inv. Multiples are net of partnership fees.

<sup>5</sup> Capital Committed to DRA Growth & Income Fund VI was originally \$15.0 million, and has been reduced to \$9.7 million due to \$5.3 million in released commitments.

<sup>6</sup> Capital Committed to Fidelity Real Estate Growth Fund III was originally \$20.0 million, and has been reduced to \$17.9 million due to \$2.1 million in released commitments.

<sup>7</sup> The Retirement System committed €13.0 million to the Partnership in 2015. The \$14.7 million commitment amount is an estimated amount based on contributed capital and unfunded commitments as of 6/30/2017.

<sup>8</sup> Due to a negative account balance as of 6/30/17, Reported Fair Value for the Partnership has been listed as "Not Meaningful."



The IRR (internal rate of return) and investment multiple are the most meaningful measures of performance for private closed-end real estate funds. The IRR measures how assets are performing in relation to time. The investment multiple shows the cash on cash return generated on the invested capital by the underlying assets.

The Total Closed-End Program<sup>1</sup> net IRR increased by 20 basis points during the second quarter, from 4.8% to 5.0%.<sup>2</sup> The improved performance was driven primarily by the valuation increase of DRA Growth and Income Fund VII (\$0.9 million or 6.5%), DRA Growth and Income Fund VIII (\$0.5 million or 3.9%), and DRA Growth and Income Fund V (\$0.4 million or 43.8%). During the second quarter, the reported fair value of the Total Closed-End Program increased by \$1.7 million, or 4.1%, after adjusting for capital calls and distributions during the quarter. Furthermore, the Aggregate Private Real Assets Program<sup>3</sup> increased by \$3.0 million, or 2.5%, over the same period.

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<sup>1</sup> Total Closed-End Program includes all closed-end funds in the real assets program.

<sup>2</sup> May not sum due to rounding.

<sup>3</sup> The Aggregate Private Real Assets Program includes both open-end and closed-end funds in the real assets program.



## **Appendices**

## **Disclaimers and Valuation Policies**

The material contained in this report is confidential and may not be reproduced, disclosed, or distributed, in whole or in part, to any person or entity other than the intended recipient. The data are provided for informational purposes only, may not be complete, and cannot be relied upon for any purpose other than for discussion.

Meketa Investment Group has prepared this report on the basis of sources believed to be reliable. The data are based on matters as they are known as of the date of preparation of the report, and not as of any future date, and will not be updated or otherwise revised to reflect information that subsequently becomes available.

If we manage your assets on a discretionary basis, please contact us if there are any changes in your financial situation or investment objectives, or if you want to impose any reasonable restrictions on our management of your account or reasonably modify existing restrictions.

In general, the valuation numbers presented in this report are prepared by the custodian bank for listed securities, and by the fund manager or appropriate General Partner in the case of unlisted securities. The data used in the market comparison sections of this report are sourced from various databases. These data are continuously updated and are subject to change.

This report does not contain all the information necessary to fully evaluate the potential risks of any of the investments described herein. Because of inherent uncertainties involved in the valuations of investments that are not publicly traded, any estimated fair values shown in this report may differ significantly from the values that would have been used had a ready market for the underlying securities existed, and the differences could be material. Note that for unlisted securities the valuations may be lagged by one or more calendar quarters, or may reflect original cost.

This document may contain certain forward-looking statements, forecasts, estimates, projections, and opinions ("Forward Statements"). No representation is made or will be made that any Forward Statements will be achieved or will prove to be correct. A number of factors, in addition to any risk factors stated in this material, could cause actual future results to vary materially from the Forward Statements. No representation is given that the assumptions disclosed in this document upon which Forward Statements may be based are reasonable. There can be no assurance that the investment strategy or objective of any fund or investment will be achieved, or that the Retirement System will receive a return of the amount invested.

In some cases Meketa Investment Group assists the Retirement System in handling capital calls or asset transfers among investment managers. In these cases we do not make any representations as to the managers' use of the funds, but do confirm that the capital called or transferred is within the amounts authorized by the Retirement System.

The values of companies and partnerships in this review are based on unaudited reports for June 30, 2017, provided by the General Partners, unless otherwise noted.

Because there is no readily accessible market for private markets assets (companies and partnerships), the values placed on private markets assets are calculated by General Partners using conservative and industry standard pricing procedures. Annually, an independent auditor reviews the pricing procedures employed by the General Partner of each partnership.

While all private markets partnerships are audited by an independent entity, there is some discretion as to the method employed to price private companies and, therefore, private markets partnerships. At all times, Meketa Investment Group expects General Partners to utilize conservative and industry standard pricing procedures, and requires the General Partners to disclose those procedures in their reports. However, because of the inherent uncertainty of valuation, these estimated values may differ from the values that would be used if a ready market for the investments existed, and the differences could be significant.

Private markets investors have developed a number of unique terms to describe their investment work. The following glossary of private markets terms is intended to help make sense of these terms. Where the term "private equity" is used, the definition will generally also apply to private debt funds that are structured in similar manner.

**Absorption:** The amount of inventory or units of a specific commercial property type that become occupied during a specified time period (usually a year) in a given market, typically reported as the absorption rate.

**Advisory Board:** Partnerships often establish an advisory board comprised of representatives of the Limited Partners to oversee the on-going work of the General Partners. Advisory boards typically meet once each year to review the partnership's investments. It is important to note that unlike the Board of Directors of a public company, the advisory board has very little power to control the activities of the General Partners.

**Angel Investor:** Angel investors are individuals who invest their own capital directly in small, early stage companies. Angels are an alternative source of funding for entrepreneurs. Such investments are characterized by high levels of risk and potentially a large return on investment.

**Appraisal:** An estimate of a property's fair market value that is typically based on replacement cost, discounted cash flow analysis and/or comparable sales price.

**Appreciation:** An increase in the value or price of a real estate asset.

**Appreciation Return:** The portion of the total return generated by the change in the value of the real estate assets during the current quarter, as measured by both appraisals and sales of assets.

**Asset Management:** The various disciplines involved with managing real property assets from the time of investment through the time of disposition, including acquisition, management, leasing, operational/financial reporting, appraisals, audits, market review and asset disposition plans.

**Asset Management Fee:** A fee charged to investors based on the amount invested into real estate assets for the fund or account.

**Barrel:** 42 U.S. gallons of oil.

**Base Metals:** Non-precious, non-ferrous metals that include copper, aluminum, lead, nickel, tin, and zinc.

**Base Rent:** A set amount used as a minimum rent with provisions for increasing the rent over the term of the lease.

**Biofuels:** Biofuels are combustible fuels, such as bio-ethanol, that are made and processed from vegetation sources such as corn, sugar cane, barley, or wheat.

**Blind Pool:** Most Limited Partnerships are organized as blind pools, meaning that Limited Partners commit capital to the partnership before any actual investments are made. At the point of commitment, the Limited Partners do not know specifically how their money will be used (hence the term blind pool), and must therefore rely entirely upon the track record and experience of the General Partner.

**BOE/day:** A daily production metric equivalent to the energy content of a barrel of oil equivalent often related to natural gas, natural liquids, and condensates.

**Broker:** A person who acts as an intermediary between two or more parties in connection with a transaction.

**Brownfield:** A project with an operating history. The initial outlay is entirely to the public entity. Brownfield can be considered an easier starting point for investors, given the shorter J-curve and lower level of risk. Meketa Investment Group categorizes a Fund as brownfield if the Fund's investment strategy calls for over 65% of its underlying investments to be in brownfield (operating) assets.

**Buyout Fund:** A buyout partnership uses the partners' capital to purchase existing, established businesses. The acquired firms may be family owned prior to purchase, or may be operating divisions of larger companies seeking to restructure their businesses. In a few cases, the buyout partners may purchase all of the outstanding shares of a publicly traded company, effectively taking it private. Buyout funds are not involved in venture capital or startups.

Buyout partnerships own the acquired companies outright, or in combination with other buyout partnerships. In some cases the buyout partners will replace the existing management with a new team, or the acquired firm will be left autonomous. The buyout partners frequently take one or more board seats in order to ensure control of the business.

**Capital Appreciation:** The change in market value of a property or portfolio adjusted for capital improvements and partial sales.

**Capital Call (Contribution):** Once a partnership has declared its first close, the General Partners will begin to make portfolio investments. As each investment is made, the capital necessary to fund the investment is "called" from the Limited Partners.

**Capitalization Rate:** A percentage that relates the value of an income-producing property to its future income, expressed as net operating income divided by purchase price. This is also referred to as cap rate.

**Carried Interest:** The share of profits that the fund manager is due once it has returned the cost of investment to investors. Carried interest is normally expressed as a percentage of the total profits of the fund. The industry norm is 20%. The fund manager will normally therefore receive 20% of the profits generated by the fund and distribute the remaining 80% of the profits to investors.

**Carrying Value:** The General Partner must list on the partnership's balance sheet a value for every investment held. These valuations are called carrying values, and in most cases are simply the original cost of the investment. Note that carrying values in most cases are not audited and do not represent actual market values.

**Cash Flow Positive:** When a company generates more free cash than it consumes in normal operations, it is deemed to be cash flow positive. Such companies may not need extra financing or debt in order to grow.

**Cash Leasing Farmland:** A low risk/return strategy that shifts the operational risk of farming to a local operator. Farmland investors receive stable lease payments from the local operators who are allowed to farm the land. Cash leasing is typically used for row croplands.

**Cash on Cash Return:** The simple gross total return earned by the Limited Partners, calculated as the total distributions received divided by the total contributions made. Thus, if an investor supplied a total of \$100 in cash calls and contributions, and received over the life of the partnership \$200 in distributions, the cash on cash return would be 100%. The cash on cash return is typically reported as a multiple. In the example above, the investment returned 2x (two times).

**Chip-N-Saw:** Produced from mid-sized trees that are cut and chipped to pulpwood chips or small dimension lumber. Chip-N-Saw is typically derived from trees measuring 10-13" DBH.

**Claw-Back Provision:** A claw-back provision ensures that a General Partner does not receive more than its agreed percentage of carried interest over the life of the fund. So, for example, if a General Partner receives 21% of the partnership's profits instead of the agreed 20%, Limited Partners can claw back the extra one percent.

**Cleantech:** A broad term used to classify products or services that improve energy productivity, performance, or efficiency while reducing input costs, consumption, waste, or pollution. Common products associated with cleantech are wind farms, photovoltaics, fuel cells, biofuels, and smart grid technologies.

**Closed-end Fund:** A commingled fund that has a targeted range of investor capital and a finite life.

**Closings and Closing Dates:** Every partnership must specify the date upon which the General Partners will cease fundraising and begin making actual investments with the Limited Partners' committed capital. That date is called the closing date, and defines the vintage year of the partnership. Most partnerships, however, have several closing dates, and all partnerships must eventually have a final closing. In most cases, the final closing lags six to nine months after the first closing. If a majority of the original Limited Partners consent, a partnership can remain open to new investors after the final closing and while early investments are being made, in order to have time to attract additional investors.

**Co-Investment:** In some cases, Limited Partners want the right to make additional direct investments in one or more of the underlying companies purchased by the General Partner. If the partnership agreement gives co-investment rights to specific Limited Partners, then they may elect to invest additional monies “along side” the General Partner in various deals. In these cases, the co-investing Limited Partners would have two investments in an underlying property: their share of the partnership’s investment, and their direct additional co-investment on the side. Note that co-investment rights may be available only to the largest Limited Partners.

Co-investment rights are often negotiated by very large Limited Partners when they have strong convictions about the deal finding skills of the General Partners, because co-investment rights permit them to make even larger investments in the underlying properties than would otherwise be possible, without paying carried interest.

**Committed Capital:** When a Limited Partnership is formed, each Limited Partner agrees to contribute a specific amount of capital to be invested over the life of the partnership. Once the agreement is signed, the Limited Partners are legally bound and committed to supply the agreed upon capital when it is called for by the General Partner.

**Concession:** A business operated under a contract or license associated with a degree of exclusivity. In the case of a public service concession, a private company (the concessionaire) enters into an agreement with the government to have the exclusive right to operate, maintain and carry out investment in a public asset (such as a utility) for a given number of years.

**Concessions:** Cash or cash equivalents expended by the landlord in the form of rental abatement, additional tenant finish allowance, moving expenses or other monies expended to influence or persuade a tenant to sign a lease.

**Consolidation (Roll Up):** Many industries in America are highly fragmented, as the market space is serviced by a large number of locally owned businesses. By consolidating fragmented industries (i.e., purchasing many local businesses), firms can create a single larger company with greater market control, more attractive financial characteristics, and potentially, better pricing flexibility and lower costs.

**Construction Loan:** Interim financing during the developmental phase of a property.

**Convertible Bonds:** Some private equity partnerships, generally those that provide mezzanine financing, may take convertible bonds as part of their compensation for providing investment capital. The convertible bond pays interest like other bonds, but can be exchanged for shares of the company stock at a favorable price if certain conditions are met, hence the term convertible.

**Core Properties:** The major property types - specifically office, retail, industrial and multifamily. Core assets tend to be built within the past five years or recently renovated. They are substantially leased (90% or better) with higher-credit tenants and well-structured long-term leases with the majority fairly early in the term of the lease. Core assets generate good, stable income that, together with potential appreciation, is expected to generate total returns in the 10% to 12% range.

**Crude Oil:** An unpurified mixture of liquid hydrocarbons derived from rock formations, containing different levels or impurities such as water or sulfur.

**DBH:** DBH (Diameter at Breast Height) is the most common measure made by a forester to determine the growth, volume, yield, and potential of a tree. DBH is defined as 4.5 ft. above the ground on the uphill side of a tree.

**Development Well:** A well drilled in a proven area of an oil or gas reservoir to a depth known to be productive.

**Direct Investment:** Partnerships that invest in companies are said to make direct investments. The alternative is a partnership that invests in other partnerships, a fund of funds.

**Direct Operation Farmland:** A strategy typically employed with permanent crops to retain complete control over the assets. Farmland investors use farmland management firms to operate the farm and add value through increased quality and output. The primary risks associated with direct operation are operating, weather, and marketing risks.

**Diversification:** The process of consummating individual investments in a manner that insulates a portfolio against the risk of reduced yield or capital loss, accomplished by allocating individual investments among a variety of asset types, each with different characteristics.

**Downstream:** Portion of the energy chain that includes oil refineries, petrochemical plants, power generation, and distribution outlets.



**Dry Hole:** An oil well that fails to find or produce any oil or gas.

**Due Diligence:** The process of examining a property, related documents, and procedures conducted by or for the potential lender or purchaser to reduce risk. Applying a consistent standard of inspection and investigation one can determine if the actual conditions do or do not reflect the information as represented.

**E&P:** Acronym for "Exploration and Production" that relates to the exploration, development, and production of crude oil or natural gas reserves. E&P is also referred to as the upstream sector.

**EBITDA (Earnings Before Interest, Taxes, Depreciation, and Amortization):** The "top line" profits of a private company are the monies earned before paying interest and taxes, and adding back depreciation and amortization. Unlike public companies, which are valued as the multiple of bottom line earnings to the stock price (P/E or price to earnings), private companies are valued as the multiple of EBITDA to the price of the stock.

There is no simple conversion factor that will convert an EBITDA multiple to a P/E for all companies, but in general, a factor of 2 is appropriate. Thus, a private company selling for an EBITDA multiple of 6 is priced about as richly as a public company with a P/E of 12.

**EBITDA Multiples:** The ratio of a private company's top line earnings to the price of its shares. See EBITDA above.

**Enterprise Value:** A measure of a company's value, often used as an alternative to straightforward market capitalization. Enterprise Value is calculated as market cap plus debt, minority interest and preferred shares, minus total cash and cash equivalents.

**Exploratory Well:** A well drilled to find and produce oil or gas in an unproven area or expand production of a previously known reservoir.

**Fee Income:** The General Partners in a private markets partnership generally receive two types of compensation: fee income as payment for their portfolio management services, and a share of any profits (carried interest) as incentive compensation.

**Fuel Cell:** A device that captures the electricity generated from a chemical reaction between a fuel and an oxidant. An example is a hydrogen fuel cell, which uses hydrogen as the fuel and oxygen as the oxidant to produce electricity and water.

**Fund of Funds:** A private markets partnership that consists primarily of investments in other partnerships, as opposed to direct investments in individual companies and deals. The General Partners of a fund of funds thus act as a manager of managers to create a diversified portfolio of partnerships, each of which in turn consists of a portfolio of direct investment deals.

Although a fund of funds is a collection of partnerships, the fund of funds itself is a partnership, and therefore has a vintage year, a commitment period, a distribution phase, and a final end. Thus, fund of funds have finite lifetimes, just like their underlying partnerships.

The advantages of a fund of funds are high diversification and "one stop shopping," i.e., the client has a single relationship with the fund of funds manager.

The disadvantages of fund of funds are higher costs (another entire layer of management fees and carried interest), an additional loss of liquidity, and an additional loss of control by the Limited Partners. Just as with direct private markets funds, a fund of funds is organized as a blind pool. That is, when a new fund of funds is announced, and a subscription target set, early investors do not know what specific sub-funds will be selected by the manager. Generally, the Private Placement Memorandum gives the General Partner almost unlimited latitude in making subsequent investments.

**General Partner:** The control partner in private equity partnerships, analogous to the portfolio manager in a public stock portfolio. Under the IRS code, the General Partner must commit some personal capital to the partnership (a minimum of 1% of the partnership's committed capital), and unlike the Limited Partners, is liable for leverage and other losses generated by the partnership.

**Geothermal Energy:** Energy extracted from the earth's interior to produce heat and electricity. Applications of geothermal energy include conventional geothermal (use of steam to drive turbines), geothermal heat pumps (pipes sunk beneath the earth's surface to act as a heat exchanger during the warmer and colder seasons), and direct heat (hot water pumped from the earth for use as a heat source).

**Greenfield:** A project without an operating history. Some of the initial outlay may be to the public entity, but the majority is used for construction. Greenfield opportunities may take an exceptionally long time to come to fruition. Meketa Investment Group categorizes a Fund as Greenfield if the Fund's investment strategy calls for over 65% of its underlying investments to be in greenfield assets.

**Growth (Expansion Capital):** A strategy that entails providing capital to a private company with the intention that the capital be used to expand operations. Generally, expansion capital strategies result in minority equity positions in companies, but with some degree of control over how the expansion capital is spent.

**Hedging:** Strategy used to limit or offset exposure to pricing risk of an underlying commodity. A common way to execute this strategy is through the use of futures contracts, a financial derivative that allows for the sale of a commodity at a pre-specified price in the future, whether or not the market price increases or decreases at the time. Counterparties to the futures contracts are speculators who are willing to accept the risk of price fluctuations in exchange for the potential upside.

**High-rise:** In the central business district, this could mean a building higher than 25 stories above ground level, but in suburban markets, it generally refers to buildings higher than seven or eight stories.

**Hurdle Rate:** The minimum rate of return that the Limited Partners must receive before the General Partners have a right to a share of any additional profits (carried interest) produced by the partnership's investments. For example, the partnership may specify that once the Limited Partners have received distributions representing an 8% total return on their commitment (the hurdle rate), the General Partner will share in all future distributions until they have been allocated 80% to the Limited Partners, and 20% to the General Partners (their carried interest).

**Hydro Energy:** Energy derived from the natural movement of falling or flowing water. The most common form of hydro energy comes from dammed water driving a turbine and generator to produce electricity. Once a hydroelectric complex is built, no direct waste is produced.

**Hydrocarbon:** A hydrogen and carbon compound created from the decomposition of organic material over time. Most hydrocarbons are found naturally in fossil fuels such as crude oil, natural gas, and coal.

**Improvements:** In the context of leasing, the term typically refers to the improvements made to or inside a building but may include any permanent structure or other development, such as a street, sidewalk, utilities, etc.

**Independent Oil Company:** A company involved in the exploration, production, and development of oil and natural gas that is not a Major Oil Company.

**In-Kind Distribution:** Most distributions from private equity partnerships are in cash. However, in some cases, a private deal will be taken public through an initial public offering (IPO), or through a trade sale for stock to a public company. In these cases, the Limited Partners will receive their distributions in the form of publicly traded common stocks and/or rights and warrants.

**Investment Period:** The period of time after the first closing during which the General Partner will call capital from the Limited Partners and make partnership investments. Legally, the investment period is usually six years. Practically, it is three to four years. Not to be confused with the term of the partnership, generally ten to twelve years.

**IPO (Initial Public Offering):** When a private company issues publicly traded stock, it becomes known as a public company. The initial sale of publicly available stock is called the initial public offering, or IPO.

**IRR (Internal Rate of Return):** The annualized rate of return on capital that is generated or capable of being generated within an investment or portfolio over a period of time, assuming all cash flows can be reinvested at the same rate. Mathematically, the IRR of an investment is the discount rate applied to that investment such that the net present value of the investment is zero. IRR is commonly used to measure profitability by applying the calculation to the after-tax cash flows to arrive at an after-tax equity yield rate.

**J-Curve:** Many private markets partnerships have small negative returns in their first years of operation as capital is invested. The negative returns result because the partnership's investments have not matured and turned a profit, but the partnership has nevertheless experienced various operating costs. When early deals begin to mature and are liquidated at a profit, the partnership's returns should become positive. Thus, the graph of the partnership's returns versus time can resemble the capital letter "J."

**Landfill Methane:** Landfill methane is generated from the decomposition of waste in landfills. Bacteria break down the organic matter, releasing a gas that is rich in methane. By capturing the methane, greenhouse gases released into the atmosphere are reduced, and the gases can be used as an energy source.

**Later Stage Fund:** A venture capital partnership that specializes in investing in startup companies that have already achieved at least some actual revenues, or a venture fund that provides subsequent rounds of venture financing after all of the capital provided in the first rounds has been consumed.

**Lead Investor:** Describes a General Partner who is the "lead" investor in a deal, as opposed to co-investors or follow-on investors. The term implies that the lead investor has taken the lead in sourcing, evaluating, and executing the deal.

**Lease:** An agreement whereby the owner of real property gives the right of possession to another for a specified period of time and for a specified consideration.

**Lease Rate:** The period rental payment to a lessor for the use of assets. It may also be considered as the implicit interest rate in minimum lease payments.

**Leverage:** Many General Partners use both equity capital provided by the Limited Partners and money borrowed from banks or other lenders to finance their investments. Any borrowed money is called leverage. If a deal is successful, leverage can often enhance the returns of the Limited Partners substantially. On the other hand, too much leverage can cripple an investment with interest and financing costs. It is important to note that the Limited Partners are not responsible for the repayment of any borrowed money.

**Leveraged Buyouts:** The purchase of a private or public company wherein the bulk of the purchase price is paid using borrowed money.

**Lifecycle:** The various developmental stages of a property: pre-development, development, leasing, operating and redevelopment (or rehab).

**Limited Partner:** All investors in a Limited Partnership other than the named General Partner are defined under the IRS code as Limited Partners. Limited Partners have only the control rights defined for them in the Private Placement Memorandum, and are generally passive investors in the partnership's deals.

A very important point is that Limited Partner's total liability for all deals made by the partnership are limited strictly by law to the Limited Partner's committed capital. Thus, even if the General Partners borrow a great deal of money (leverage), and lose it all, the lenders have no recourse to the assets of the Limited Partners. In effect, a Limited Partner can lose no more than the amount of money invested.

**Look-Back Provision:** See Claw-Back Provision above.

**Low-rise:** A building with fewer than four stories above ground level.

**Major Oil Company:** One of the original "Seven Sisters" consisting initially of Exxon, British Petroleum, Chevron, Gulf, Mobil, Texaco, and Royal Dutch Shell.

**Market Strategy:** A course of action defined with respect to a particular real estate market phase. For example, consider the market strategy of avoiding real estate transactions when there is an oversupply of space available in the market.

**Market Value:** The most probable price that a property would bring in a competitive and open market under fair sale conditions. Market value also refers to an estimate of this price.

**Mezzanine Financing:** An additional level of financing provided to a private company to expand sales, market share, or develop new products. Most mezzanine financing is structured as a package of high coupon bonds with equity "kickers," i.e., rights to acquire the company's stock at a favorable price at a future point. Companies seeking mezzanine financing often have substantial revenues, and if not actual profits, the expectation of imminent profitability.

**Midstream:** Portion of the energy chain that transports and stores commodities such as oil and natural gas.

**MMCF:** One million cubic feet.

**Multiples and Multiple Expansion:** Managers purchasing public common stocks often buy companies with low price to earnings multiples when they believe some factor will induce other investors to bid up the price of the stock without an increase in actual earnings, thus causing the price multiple to expand. In the same fashion, a General Partner may purchase a private company with a low EBITDA multiple, expecting to profit through an expansion of that multiple. A typical example of a multiple expansion plan is consolidation. Many small companies, operating independently, may each be priced at relatively low multiples. But if purchased and combined into a larger, cohesive entity, investors might be willing to pay a higher multiple for the aggregate than for any individual component.

**Natural Gas:** A gaseous fossil fuel consisting primarily of methane and other heavier hydrocarbons. Natural gas burns cleaner than oil and coal and is a major source of electricity generation through the use of gas and steam turbines.

**Net Metering:** An arrangement that allows a facility to sell any excess energy it generates back to the electrical grid to offset its consumption.

**Net Operating Income (NOI):** The potential rental income plus other income, less vacancy, credit losses, and operating expenses.

**Oil Sands:** Naturally occurring mixtures of a very dense, tar-like form of petroleum called bitumen and sand or clay. Because of the high production and refining costs associated with oil sands, economic feasibility only occurs with high oil prices.

**OPEC:** OPEC (Organization of Petroleum Exporting Countries) is an oil cartel comprising twelve countries around the world.

**Open-end Fund:** A commingled fund that does not have a finite life, it continually accepts new investor capital and makes new property investments.

**Operator:** The party responsible for managing the asset; may be (and usually is) different than the owner/lessee of the asset.

**Opportunistic:** A phrase generally used by advisers and managers to describe investments in underperforming and/or undermanaged assets that hold the expectation of near-term increases in cash flow and value. Total return objectives for opportunistic strategies tend to be 20% or higher. Opportunistic investments typically involve a high degree of leverage - typically 60% to 100% on an asset basis and 60% to 80% on a portfolio basis.

**Permanent Crops:** Permanent crops include those grown on a tree or vine such as almonds, wine grapes, apples, and oranges. They are usually directly operated to produce higher income returns from crop sales but can carry a higher level of risk.

**PFI:** The Private Finance Initiative specifies a method, developed initially by the U.K. government, to provide financial support for Public-Private Partnerships. This has since been adopted as part of a wider reform program for the delivery of public services which is driven by the WTO, IMF & World Bank as a part of their "deregulation" and privatization drive. In return for their services, the private sector receives payment linked to its performance.

**Pipeline:** A system made of steel piping used to transport oil, gas, and other liquids from one location to another.

**Placement Agent:** Unlike public stock management companies, most of whom utilize an in-house sales force to market their services, private equity partnerships are generally marketed by third-party placement agents. These outside marketing firms and individuals are paid a commission by the General Partner.

**Platform Company:** Some private equity buyout funds attempt to add value by merging companies into larger, more cost efficient enterprises. This strategy generally begins with the acquisition of a platform company, often a market leader, to which other companies are added.

**Possible Reserves:** Reserves of oil or natural gas that have a less likely chance of being recovered than probable reserves. These reserves are often claimed as having a 10% certainty of being produced and are also known as P10 or 3P.

**PPM (Private Placement Memorandum):** Because Limited Partnership interests are not registered with the SEC, private equity managers must distribute a comprehensive document to prospective investors that describes the broad investment thesis of the partnership, and highlights any risks involved in the partnership. This document is called a Private Placement Memorandum.

**PPP:** A Public Private Partnership (or P3) is a system in which a government service or private business venture is funded and operated through a partnership of government and one or more private sector companies. Also referred to as Collective Development Agreements or Alternative Finance Procurement.

**Precious Metals:** Precious metals include gold, silver, palladium, and platinum. These metals have wide industrial uses but are better known for their usage in jewelry, art, and store of value.

**Pre-merch (merchantable):** Logs that do not meet the minimum size, quality, or usable volume required for the commercial sale of timber.

**Privatization:** The transfer of property or control of assets used to provide public services from the public sector to the private sector.

**Probable Reserves:** Probable reserves are those reserves based on median estimates and claim a 50% confidence of recoverability. These reserves are also known as P50 or 2P.

**Producing Well:** A well that produces oil and gas in sufficient quantities such that the revenue generated exceeds the associated production costs and taxes.

**Property Type:** The classification of commercial real estate based on its primary use. The four primary property types are: retail, industrial, office, and multi-family residential.

**Proved Reserves:** Reserves of oil or natural gas that are claimed to have a 90% certainty of being recovered using existing technology. The SEC only allows oil companies to report proved reserves to investors. Proved reserves are also known as P90 or 1P.

**Public to Private:** If a private partnership (or group of private partnerships) purchases all of the outstanding shares of a publicly traded company, the company's shares may be de-listed from the stock exchange. The company is then said to have been "taken private." For example, in June 1989, the private partnership Wings Holdings acquired the public stock of Northwest Airlines in a \$3.65 billion-dollar leveraged buyout. Following this acquisition, Northwest became a privately held corporation for the first time since 1941.

**Pulpwood:** Wood cut and chipped for the manufacturing of paper and paper related products. Pulpwood is typically too small or of insufficient quality for sawtimber and is classified as 6-9" DBH.

**Real Estate Cycles (phases):** The regularly repeating sequence of economic downturns and upturns and associated changes in real estate market transactions tied to market dynamics and changing macroeconomic conditions, whose phases include (in order) recession, recovery, expansion, and oversupply.

**Real Estate Investment Trust (REIT):** An investment vehicle in which investors purchase certificates of ownership in the trust, which in turn invests the money in real property and then distributes any profits to the investors. The trust is not subject to corporate income tax as long as it complies with the tax requirements for a REIT.

Shareholders must include their share of the REIT's income in their personal tax returns. (Barron's Dictionary of Real Estate Terms and Encyclopedia of Real Estate Terms 2nd Edition, Damien Abbott)

**Real Estate Trends:** Long-term movements or tendencies in the demand for commercial real estate (which can typically last for years or decades), usually tied to macro-economic or business cycles.

**Renewable Energy:** Energy derived from natural resources such as solar, wind, geothermal, or biofuels. Unlike oil, natural gas, or coal, these sources of energy are naturally replenished, providing a potential source of cleaner and more sustainable energy.

**Row Crops:** Row crops are those that are planted and harvested annually from the soil, as opposed to trees or vines, and include corn, cotton, rice, soybeans, and vegetables. Row crops are often eligible to receive federal subsidies.

**Sawtimber:** Timber of sufficient size and quality to be cut and harvested for lumber or other solid wood products. Sawtimber is usually derived from trees measuring 14" + DBH.

**Secondary Fund:** Occasionally, a Limited Partner will wish to sell his interest in a partnership before the term of the partnership is completed. Any such sale is termed a secondary market sale. A secondary fund creates a portfolio of partnership interests from earlier partnerships purchased in the secondary market. The advantage of a secondary fund is that it gives investors an opportunity to invest in seasoned partnerships from closed funds of prior vintage years.

**Shadow Tolls:** Payments made by government to the private sector operator of a road based, at least in part, on the number of vehicles using the road. They are currently in operation on some roads in the U.K., and they have also been adopted in other countries.

**Solar Energy:** Source of energy derived from the sun's light and heat. Common solar technologies include photovoltaics (PV) and solar thermal.

**Sponsor:** Every private equity opportunity that Meketa Investment Group evaluates is assigned to a sponsor. This individual, who is a member of Meketa Investment Group's Private Equity Investment Committee, is responsible for the collection of information and the evaluation of the opportunity.

**Submarket:** A segment or portion of a larger geographic market defined and identified on the basis of one or more attributes that distinguish it from other submarkets or locations.

**Take Down/Draw Down:** A take down or a draw down is the same as a capital call.

**Term:** The term of a private partnership is its expected lifetime, and is specified in the Private Placement Memorandum. Most partnerships have a term of ten years, with the option to extend the term once or twice by an additional year if the Limited Partners approve.

The term of a partnership consists of several phases. After the final closing, no new commitments are accepted and the partnership enters the commitment phase or investment phase, legally lasting up to six years, but generally lasting three to four years, during which the individual investments are made. A distribution phase follows, during which mature investments are realized and profits distributed to the partners. The final phase is the liquidation phase, during which all remaining properties and assets are sold in order to terminate the partnership.

**Trade Sale:** The most prevalent exit strategy for many private equity managers involves selling a company in the private markets, usually through an auction process, to other private equity investors or to larger companies. This type of exit is termed a trade sale.

**Turnaround:** A turnaround strategy involves buying a troubled company, usually for a relatively low price, and making significant managerial or organizational changes to better the company's operations and enhance profitability.

**Upstream:** Portion of the energy industry engaged in the exploration, production, and development of crude oil and natural gas reserves.

**Vacancy:** The number of units or space (of a specific commercial type) that are vacant and available for occupancy at a particular point in time within a given market (usually expressed as a vacancy rate).

**Vacancy Rate:** The percentage of the total supply of units or space of a specific commercial type that is vacant and available for occupancy at a particular point in time within a given market.

**Value-added:** A phrase generally used by advisers and managers to describe investments in underperforming and/or undermanaged assets. The objective is to generate 13 % to 18% returns.

**VCOC (Venture Capital Operating Company):** The IRS code defines one category of private partnerships to be venture capital operating companies for tax purposes. The General Partners of VCOCs are not required to register with the SEC as investment advisors. The name venture capital operating company relates only to the partnership's legal and tax structure, and does not imply that the partnership will invest in venture capital deals. For example, a middle market buyout fund, which invests only in mature companies with enterprise values of between \$200 million and \$1 billion, may be structured as a venture capital operating company.

**Veneer:** Continuous sheets of thin wood cut from trees measuring at least 16" + DBH. Veneer is commonly used in the manufacture of furniture and plywood.

**Venture Capital:** Money supplied to entrepreneurs to create new businesses is called venture capital. It is the first stage of financing for any new venture.

Traditionally, the recipient of the venture capital was a small group of entrepreneurs with an idea and a business plan, but no management team, corporate structure, revenues or profits. In the 1990s, however, venture capital was often used to seed established teams of entrepreneurs with well-defined products and in-place corporate structures. Thus, there is great variability in the meaning of venture capital and in the types of deals financed with venture capital money.

**Vintage Year:** The calendar year in which the first cash flow to a partnership occurred. This cash flow can be intended for management fees or investment capital. Vintage year can be used to differentiate the partnerships established over time by a General Partner, to track portfolio commitment pacing, and to benchmark portfolio performance.

**Warrants:** Just like publicly traded companies, private companies may issue warrants to their shareholders or to other groups providing some form of financing. A warrant is the right to purchase shares of the company's stock at a future date at a predetermined price, called the exercise price. Warrants become valuable if the exercise price is below the market price of the stock.

**Wind Energy:** Source of energy derived from wind motion that can be converted to electricity by turning a turbine and generator.